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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,351	11/07/2001	Guenther W. Brune	DCI-17CIP	7015

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EXAMINER

STRECKER, GERARD R

ART UNIT	PAPER NUMBER
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2862

DATE MAILED: 03/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
10/007,351

Applicant(s)
Brune et al.

Examiner
Gerard Strecker

Art Unit
2862



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Dec 24, 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-149 is/are pending in the application.
- 4a) Of the above, claim(s) 1-48 and 80-149 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2 6) ☐ Other:

Art Unit: 2862

Applicant's election without traverse of the invention of Group IV (claims 49-79) in Paper No. 4 is acknowledged.

Claims 1-48 and 80-149 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made without traverse in Paper No. 4.

The Radiodetection Limited technical specification sheet listed on Form 1449 has not been considered since a copy of such document was not found with applicant's IDS filed 2/21/02.

The disclosure is objected to because of the following informalities: On page 8, at the last line of paragraphs 46 and 47, it is not seen that the boring tool at position A is shown in phantom in Figs. 2 and 3. In the description of Fig. 7 at pages 12 and 13, 23 and 25 there is no mention of block 132a shown in Fig. 7 (note reference in paragraph 103 to block 128a which is connected to block 132a). In the description of Fig. 8, beginning with paragraph 63, there is no mention of display 180 shown in Fig. 8. At page 14, line 9, "signals it by" is awkward. On page 22, if the language at the end of line 34 and beginning of line 35 is intended to be deleted, it should be done by appropriate amendment since the change has not been initialed.

Appropriate correction is required.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Art Unit: 2862

Claims 49-74 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In independent claims 49 and 64 it is not clear what frequency the frequency control arrangement controls and how such arrangement indicates the selected frequency to the locator.

In independent claim 73, at lines 8 and 9, it is not clear how the frequency tracking arrangement switches the locator based on the frequency designation since since the locator is not recited as receiving the transmitted frequency designation. Dependent claims 50-63, 65-72 and 74 are indefinite based on their dependence on their respective parent claims.

Claims 49-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rider et al (5,361,029) in view of Rider (5,264,795) and Mercer (5,337,002, cited in applicant's IDS).

Rider et al discloses (Figs. 3, 4-20) a locator arrangement for locating concealed underground objects such as gas, sewer and water pipes, and cables. The locator arrangement can also be used in tracking the position of a boring tool as the tool moves through the ground. See col. 1, lines 37-64. A transmitter 100 (Fig. 14) transmits a locating signal at a selected one of a plurality of frequencies. See col. 11, lines 6-33. The selected frequency is indicated to a locator (receiver 200) by encoding a frequency identifying code on the selected frequency as part of the transmitter signal control (col. 11, lines 26-33). The locator receiver 200 (figs. 4, 8A, 8B, 14) receives the locating signal and includes a frequency tracking arrangement (microcontroller 550,

Art Unit: 2862

Fig. 8B) for switching the locator between different ones of the locating frequencies based on the identified frequency.

Although Rider et al discloses, as indicated above, that the locator arrangement can be used in conjunction with a boring tool in which the transmitter is mounted, such boring tool is not shown.

Rider (Fig. 3) and Mercer (Fig. 2) disclose locator arrangements, as part of a system in which a boring tool (52 in Rider, 28 in Mercer) is moved through the ground, for tracking the position and/or guiding the boring tool as it moves through the ground.

It would have been obvious to employ the locator arrangement and technique of Rider et al in conjunction with a system in which a boring tool is moved through the ground, by transmitting the locating frequencies from the boring tool, as disclosed by Rider and Mercer, in order to implement the teaching of Rider et al of using the locator for such purpose.

Further, although the locating signals in Rider et al are also the carrier frequencies, it would have been obvious to one skilled in the art to provide a separate carrier frequency (claims 50, 66) to provide locating signals unencumbered by additional information. Thus, also the separate carrier frequency would be available for transmitting additional desired information relevant to the movement of the boring tool, such as pitch and roll (claims 51, 54, 61, 67, 71) which are necessary data in steering the tool, as taught by Mercer (col. 5, lines 12-29, Figs. 3B, 5A, 5B). Sending the indication of the selected frequency in accordance with a certain format based on changing of the selected frequencies (claims 55-59, 69, 70) or detecting the selected

Aft Unit: 2862

frequency in accordance with the powering down (claims 63, 75, 76, 78) or powering up (claims 62, 72) of the transmitter would involve features falling within the routine discretionary capabilities of the skilled practitioner exercised in accordance with the operational status and functional requirements of the boring tool and the optimization thereof.


Gard is made of record to show a receiver device for use in tracking boring tools.

Brune et al, from which the present application is derived, is made of record.

Any inquiry concerning this communication should be directed to G. R. Strecker at telephone number 305-4937.

Strecker/ek

03/18/03


GERARD R. STRECKER
PRIMARY EXAMINER